

CLAIMS

1. An optical element (1) for correcting refractive index related aberrations in an optical system, characterized in that it comprises a fluid chamber (5),
5 which is provided with an electrode configuration (2,12) and includes a first, electrically conducting, fluid (B) and a second, non-conducting, fluid (A), and an interface (14) between the fluid, the fluids having different Abbe numbers and the corrective power of the element being controllable by electrowetting forces generated by a voltage (V) applied to the electrode configuration (2,12)
10 and deforming the shape of the interface (14,14').
2. An optical element as claimed in claim 1, characterized in that the first and second fluids (B,A) have substantially the same refractive index.
- 15 3. An optical element as claimed in claim 1 or 2, characterized in that it comprises a first electrode (12) connected to the first fluid (B) and a second electrode (2) arranged on the inner side of the fluid chamber wall (3).
4. An optical element as claimed in claim 3, characterized in that the inner
20 side of the fluid chamber wall facing the fluids is covered by an insulating layer (8).
5. An optical element as claimed in claim 4, characterized in that the insulating (8) layer is covered by a hydrophobic layer (10).
- 25 6. An optical element as claimed in claim 4, characterized in that the insulating layer (8) is hydrophobic.
- 30 7. An optical element as claimed in any one of claims 1-6, characterized in that the first fluid (B) is salted water and the second fluid (A) is oil.

8. And image-capturing device (40) comprising a lens system (42) and an image-receiving unit (48), characterized in that the lens system comprises an optical element (1) as claimed in any one of claims 1-7.

5 9. A camera comprising an image-capturing device (40) as claimed in claim 8.

10. A hand-held apparatus (50) comprising a camera as claimed in claim 9.

10 11. A hand-held apparatus as claimed in claim 10, wherein the apparatus is a mobile phone (50).

12. An optical head (80) for scanning an information layer (74) and comprising a radiation source unit (82) for supplying a scanning beam
15 (84,90,100,102), an optical lens system (88,90) for focusing the scanning beam in the information layer and a radiation-sensitive detection unit (112) for converting scanning beam radiation from the information layer into electrical signals (114,116), characterized in that the lens system comprises an optical element (1) as claimed in any one of claims 1-6.